

OVERHEAD CONSOLE FOR A SPORT UTILITY VEHICLE

BACKGROUND OF THE INVENTION

1. Field of the Invention. This invention relates
5 to the field of overhead consoles for sport utility
and similar vehicles and more particularly to such
vehicles with tops designed to be removed or
lowered.

2. Discussion of the Background. Sport utility
10 vehicles normally have consoles conveniently
positioned between the drive and passenger in the
cockpit of the vehicle. Such consoles are commonly
located between the front seats of the vehicle
and/or in an overhead position. All known overhead
15 consoles are integrally attached to the vehicle top
and do not remain in place when the top is removed
or lowered.

In this light, the present invention was
developed. With it, an overhead console is provided
20 that remains in place when the top is removed or
lowered. Further, the overhead console is
specifically designed to be used with any number of
conventional top designs without hindering their
normal attachment and operation. Consequently, the
25 overhead console can be used with both hard and soft
tops including full tops that enclose the entire
interior of the vehicle as well as partial ones that
extend over and cover only the cockpit of the
vehicle.

SUMMARY OF THE INVENTION

5 This invention involves an overhead console assembly for a vehicle. The console assembly is mounted to extend in an overhead position between the windshield of the vehicle and a portion of the safety bar arrangement. The console assembly is intended to remain in place whether or not the vehicle has a top. Additionally, the console assembly is designed to be used with any number of
10 conventional hard and soft tops without interfering with their attachment to the vehicle or normal operation.

The console assembly is elongated and has front and rear end portions spaced from each other along an axis. The front end portion is secured to the
15 upper portion of the vehicle windshield for pivotal movement about a horizontal axis. The rear end portion in the preferred embodiment has a rearwardly facing, open member to straddle the safety bar immediately behind and above the vehicle cockpit.
20 The front and rear end portions in this regard are slidably mounted to each other for relative movement along the axis of the console assembly.

In use, the front end portion of the console assembly is preferably clipped or snapped to the
25 windshield and pivoted to horizontally align the straddling member of the rear end portion with the safety bar. The straddling member of the rear end portion is thereafter slid rearwardly relative to the front end portion to engage the safety bar. A
30 strap arrangement is then provided to secure the straddling member to the safety bar to mount the console assembly in an overhead position above the vehicle cockpit.

35 The ability of the two end portions of the console assembly to slide relative to each other to

change the overall length of the console assembly also enables the console assembly to be adjusted to fit vehicles whose windshields and safety bars may be spaced at different distances from each other.

5 The pivotally mounted front end portion further enables the console assembly of the present invention to be moved to align with vehicles whose windshields and safety bars may be at slightly different vertical levels or heights on the vehicle.

10 In another embodiment of the invention, a hardtop of two, removable sections is positionable over the vehicle cockpit and the console assembly. The sections preferably have overlapping and interlocking edge portions and each section is

15 preferably at least partially supported by the console assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a vehicle with the overhead console assembly of the present invention mounted to it.

5 Figure 2 is a perspective view of the underside of the console assembly of Figure 1.

 Figure 3 is a view taken along line 3-3 of Figure 2 showing one manner in which the rear end portion of the console assembly can be removably secured to the safety bar.

10 Figure 4 is a perspective view similar to Figure 2 but more fully showing the underside of the console assembly.

 Figure 5 is view taken along line 5-5 of Figure 2 showing one manner in which the front end portion of the console assembly can be removably secured to the vehicle windshield.

15 Figure 6 is a view taken along line 6-6 of Figure 5 showing further details of how the front end portion of the console assembly is clipped or snapped in place to the windshield.

20 Figures 7 and 8 are views similar to Figure 5 showing the addition of a vehicle soft top that can be positioned over the console assembly (Figure 7) and latched in place to the windshield (Figure 8) in its normal manner without any interference from the console assembly.

25 Figure 9 illustrates an embodiment of the present invention in which a hardtop with two, removable sections is shown positionable over the console assembly.

30 Figure 10 is a view taken along line 10-10 of Figure 9 illustrating how the sections of the hardtop have overlapping and interlocking parts above the console assembly which are also supported by the console assembly.

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Figure 11 illustrates the console assembly of the present invention in use with a partial soft top that extends only over and covers the vehicle cockpit.

5 Figure 12 shows further details of the manner in which the two portions of the console assembly are mounted for sliding movement relative to each other to adjust the overall length of the console assembly.

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DETAILED DESCRIPTION OF THE INVENTION

As shown in Figure 1, the present invention includes an elongated, overhead console assembly 1 for a vehicle 2. The vehicle 2 has a windshield 4 with an upper portion 6 extending substantially horizontally across the vehicle 2 along the axis 8. The vehicle 2 further includes a safety bar arrangement 10 with a portion 12 thereof spaced rearwardly of the upper portion 6 of the windshield 4 and extending substantially horizontally across the vehicle 2 along the axis 14. The elongated console assembly 1 as explained in more detail below is respectively mounted to the upper windshield portion 6 and to the safety bar portion 12 to extend substantially horizontally therebetween along the substantially horizontal axis 3. The upper windshield portion 6 and the safety bar portion 12 in this regard are normally at substantially the same vertical level or height on the vehicle 2.

The rear end portion 5 of the overhead console assembly 1 can be secured to the safety bar portion 12 in any number of manners. In the illustrated one of Figures 1-3, the rear end portion 5 is provided with a rearwardly facing, open member 7 (see Figures 3 and 4) which abuts and straddles the safety bar portion 12 (Figure 3) and is removably secured in place by a pair of buckled straps 9 (see also Figures 1 and 2). The straddling member 7 has two pairs of vertically spaced slots 11 on each end (see again Figure 3) through which each strap 9 can be respectively threaded and tightened by buckle 13 about the safety bar portion 12. Similarly, the front end portion 17 of the overhead console assembly 1 can be removably secured to the upper windshield portion 6 in a variety of ways. In the

illustrated one of Figures 2, 5, and 6, a depending footman bracket 12 is attached to the upper windshield portion 6 by horizontally staggered clamp or clip members 21 (see Figure 6) snapped onto the horizontal rod member 12' of the footman bracket 12.

The overhead console assembly 1 as shown in Figures 1 and 2 is intended to be mounted to the upper windshield portion 6 and safety bar portion 12 in a secured manner as discussed above. The console assembly 1 is also intended to remain in place whether or not there is a top on the vehicle 2. In doing so, the securing arrangements of the console assembly 1 at its rear and front end portions 5, 17 have been designed so as not to interfere with the normal attachment and operation of conventional tops such as the soft top 20 in Figure 7 and 8. More specifically and as illustrated in Figure 7, the soft top 20 with its header 22 can be positioned over the console assembly 1 with the header 22 as normally intended abutting the cap or seal 6' of the upper windshield portion 6. This can be done without any obstruction from the overhead console assembly 1. The soft top 20 in its normal manner can also be latched in place on the upper windshield portion 6 (see Figure 8) with the hook member 24 of the latch 26 received as designed in the slot 28 of the upper windshield portion 6. The conventional soft top 20 in this regard commonly has a pair of such latches 26 positioned outboard on either side of the elongated console assembly 1 to be received in respective slots 28 in the upper windshield portion 6 (see also Figure 2).

Figures 9 and 10 illustrate an embodiment of the present invention in which the elongated console assembly 1 is used with a hardtop 31 that has two, removable sections 33 and 35. Each section 33, 35 preferably has a latch 37 (see Figure 9) operated

essentially in the same manner as the latching mechanism 26 in Figure 8 to releasably secure each section 33, 35 to the upper windshield portion 6. The inner edge portions 39 and 39' of the sections 33 and 35 in Figure 9 can be spaced from one another but preferably have overlapping parts that interlock with one another. As for example and as illustrated in Figure 10, this can be done using a tongue 41 and groove 43 arrangement. Further and whether or not the edge portions 39,39' abut or overlap one another, the edge portions 39,39' are preferably positioned above the console assembly 1 (see again Figure 10). In this regard, each of the sections 33, 35 is preferably at least partially supported by the console assembly 1. In the illustrated manner of Figure 10, the grooved section 33 actually abuts the console assembly 1 to be supported directly thereon and the tongued section 35 then rests in the groove 43 of section 33. If the edge portions 39, 39' are spaced slightly from each other above the console assembly 1, each section 33, 35 would then preferably abut the console assembly 1 at the respective edge portions 39,39' and be supported directly thereby.

The overhead console assembly 1 of the present invention as discussed above is intended to stay in place whether or not there is a top on the vehicle 2. As also discussed above, a soft top such as 20 in Figures 7 and 8 can be closed and opened over the the console assembly 1. The top 20 in this regard can be operated in its normal manner without any interference from the console assembly 1. This is true whether or not the soft top 20 has a header 22 or other convention attaching mechanism to the upper windshield portion 6 such as the belt and channel arrangement of co-owned U.S. Patent No. 4,757,854. Similarly, full hardtops enclosing the entire

interior of the vehicle 2 or a partial hardtop over just the vehicle cockpit as in Figure 9 can be used with the console assembly 1 of the present invention. The console assembly 1 can also be used
5 with a partial soft top such as 20' in Figure 11 that extends over just the cockpit of the vehicle 2. In the arrangement of Figure 11, the illustrated partial soft top 20' has a header 22' like 22 in Figure 8 latchable to the upper windshield portion 6
10 in essentially the same manner. Such partial soft tops 20' commonly have a tie-down strap 30 passing around the safety bar portion 12 and cinched to the footman bracket 32 on the upper windshield portion 6. In adapting the console assembly 1 for use with
15 such a partial soft top 20', the loop or guide member 34 of Figure 11 can be provided between the legs 45 (see also Figure 4) of the rear end portion 5 of the console assembly 1. The tie-down strap 30 can then be routed as shown in Figure 11 about the
20 safety bar portion 12, up through to be received by the guide member 34, forward about the footman bracket 32, and cinched tight at the buckle 36. The console assembly 1 thus can be used with removable full and partial soft and hard tops that have at
25 least one section selectively positionable over the vehicle cockpit to extend substantially between portions 6 and 12. In each case, the normal operation of the full or partial top (whether a soft top of flexible, foldable material such as vinyl or
30 a hard top of substantially rigid material such as urethane) is not hindered by the console assembly 1 of the present invention.

Figure 12 illustrates a further feature of the present invention in which the rear end portion 5 of
35 the console assembly 1 is mounted for sliding movement relative to the front end portion 17. As previously mentioned, the rear end portion 5 as best

seen in Figures 4 and 12 has a pair of legs 45 on which the open face member 7 is mounted. Each leg 45 in turn as illustrated in Figure 12 is slidably received in a channel 47 in the front end portion or section 17 of the console assembly 1 for sliding movement relative thereto along the axis 3. In use, the console assembly 1 is preferably first snapped or clipped onto the footman bracket 12 depending from the upper windshield portion 6 (see Figures 5 and 6). The straddling member 7 (Figure 12) at this point is preferably retracted to the position shown in solid lines in Figure 12 so the member 7 can be moved or pivoted to align with the level of the safety bar portion 12. The rear end portion 5 and straddling member 7 can thereafter be slid outwardly to the left in Figure 12 relative to the front end portion 17 to engage the safety bar portion 12 as shown in dotted lines in Figure 12. The straddling member 7 can then be secured to the safety bar portion 12 by each belted strap 9 as also shown in dotted lines in Figure 12.

Other advantages of the sliding or telescoping feature of the rear and front end portions or sections 5, 17 of the console assembly 1 also exist. As for example, the console assembly 1 can be adjusted to fit a number of vehicle configurations in which the portions 6 and 12 may be spaced at different distances from each other. The overall length of the console assembly 1 along the axis 3 can thus be quickly and easily adjusted as desired to modify the distance between the end portions 5, 17. Additionally, the pivotal attachment of the front end portion 17 of the console assembly 1 to the upper windshield portion 6 also allows the console assembly 1 to be rotated about the horizontal axis 40 of the rod member 12' in Figures 5 and 6. In this regard, the upper windshield

portion 6 and safety bar portion 12 on most vehicle are at substantially the same level or height on the vehicle. However, this may still vary by a few inches or more. Consequently, the pivotally mounted console assembly 1 can be adjusted and positioned to fit between such portions 6 and 12 even though they are not exactly at the same vertical level. In such cases, the portions 6 and 12 are still normally substantially at the same height and the console assembly 1 will still extend substantially horizontally above the vehicle cockpit between the portions 6 and 12 in a convenient overhead manner. Preferably, the axes 8, 14, and 40 are substantially parallel to each other and the axis 3 of the console assembly 1 is substantially perpendicular to them. Consequently, and if the portions 6 and 12 are at slightly different levels, the axis 3 of the console assembly 1 will normally still be perpendicular to the respective axes 8 and 14 of the upper windshield portion 6 and the safety bar portion 12.

With the console assembly 1 in place and whether or not the vehicle 2 has a top, items 42 (e.g., snacks, cell phone, maps) such as illustrated in Figures 2 and 3 can be put in the overhead storage compartment 44 and held in place by netting 46 or a lid if desired. Further, the console instruments (e.g., overhead speakers 50, overhead lights 52, and electrical power point 54 in Figure 4) are always accessible and available for use whether or not the vehicle 2 has a top and whether or not the top is up or down. The console assembly 1 as indicated above can thus be used with essentially any conventional top (full or partial, soft or hard, attached to the vehicle or removable) without any interference of its normal operation by the console assembly 1.

5 The console assembly 1 as illustrated is preferably secured about midway across or along the respective upper windshield portion 6 and safety bar portion 12. Additionally and although the length of the console assembly 1 is adjustable along the axis 3, the width of the console assembly 1 is preferably substantially uniform along the axis 3. This width in a direction substantially parallel to the axis 8 of the upper windshield portion 6 is preferably a relatively small fraction (e.g., 1/5th) the width or distance the upper windshield portion 6 extends along the axis 8.

10 While several embodiments of the present invention have been shown and described in detail, it to be understood that various changes and modifications could be made without departing from the scope of the invention.